DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

Bay Area Branch
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Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 1.28

WELDING INSPECTION REPORT

Resident Engineer: Siegenthaler, Peter
Address: 333 Burma Road
City: Oakland, CA 94607

Report No: WIR-024320
Date Inspected: 09-Jun-2011

Project Name: SAS Superstructure
Prime Contractor: American Bridge/Fluor Enterprises, a JV
Contractor: American Bridge/Fluor Enterprises, a JV

OSM Arrival Time: 700
OSM Departure Time: 1530
Location: Job Site

CWI Name:	Steve Jensen			**CWI Present:**	☑ Yes	☐ No		
Inspected CWI report:	☐ Yes	☑ No	☐ N/A	**Rod Oven in Use:**	☐ Yes	☐ No	☑ N/A	
Electrode to specification:	☑ Yes	☐ No	☐ N/A	**Weld Procedures Followed:**	☑ Yes	☐ No	☐ N/A	
Qualified Welders:	☑ Yes	☐ No	☐ N/A	**Verified Joint Fit-up:**	☑ Yes	☐ No	☐ N/A	
Approved Drawings:	☑ Yes	☐ No	☐ N/A	**Approved WPS:**	☑ Yes	☐ No	☐ N/A	
				Delayed / Cancelled:	☐ Yes	☑ No	☐ N/A	

Bridge No: 34-0006
Component: Tower

Summary of Items Observed:

This Quality Assurance (QA) Inspector, Craig Hager was on site at the job site between the times noted above. This QA Inspector was on site to randomly observe Quality Control (QC) personnel perform Non-Destructive Testing (NDT) and monitor American Bridge/Fluor (ABF) welding operations. This Quality Assurance (QA) Inspector, Craig Hager observed the following.

114 Meter elevation – South Tower – Splice Plates

Prior to the start of welding this QA Inspector observed induction heating blankets which appeared to have been positioned over the areas to be welded in order to start the preheating process, gas troches are used to bring the preheat temperature to be within the range specified in the Welding Procedure Specification (WPS).

This QA Inspector observed ABF welding personnel Salvador Sandoval (#2202) using the Flux Cored Arc Welding (FCAW) process at weld joint #165-Southwest, the top fillet weld in the horizontal (2F) position on the top half of the splice plate. This QA Inspector was present and randomly observed as QC Inspector Steve Jensen verified the following welding parameters; 308 amperes and 22 volts at a travel speed of 180 mm per minute to produce a heat input of 2.26 Kj per mm. The welding observed appeared to comply with ABF-WPS-D15-F2200-2. Welding at this weld joint was completed by early afternoon and this completed the welding for the splice plates located in this corner of the tower. This QA Inspector randomly observed as QC Inspector Steve Jensen performed a visual inspection on weld joints #165-Southwest and #166-Southwest. QC Inspector Steve Jensen informed this QA Inspector he had accepted the welds. This QA Inspector performed a random visual verification and the welding appeared to comply with the contract requirements. This QA Inspector observed the welded area

was covered with an induction heat blanket and the 3 hour post heating was started. ABF welding personnel Salvador Sandoval (#2202) started picking up his equipment in this tower to move to the West tower. ABF welding personnel Salvador Sandoval (#2202) did not perform any more welding this date.

This QA Inspector randomly observed ABF welding personnel Xiao Jian Wan (#9677) using the FCAW process at the bottom half of weld joint #165-South. This QA Inspector was present and observed as QC Inspector Steve Jensen verified the following FCAW welding parameters; 259 amperes and 22.1 volts at a travel speed of 85 mm per minute to produce a heat input of 4.04 Kj per mm. The welding observed appeared to comply with ABF-WPS-D15-F2200-3. Welding of the bottom half of #165-South appeared to be completed at approximately 1400 hours this date. QC Inspector Steve Jensen performed a visual inspection on weld joint #166-South and marked multiple areas for grinding. This QA Inspector observed ABF welding personnel Xiao Jian Wan (#9677) started grinding but did not appear to finish this shift.

114 Meter elevation – West Tower – Splice Plates

QC Inspector Steve Jensen informed this QA Inspector that ABF welding personnel Salvador Sandoval (#2202) was setting up and moving equipment to start tack welding weld joints; 165-West, 166-West, 165-Northwest and 166-Northwest. This QA Inspector did not observe any welding at this location by the end of the shift.

Various Orthotropic Box Girder (OBG) sections

This QA Inspector observed ABF welding personnel Fred Kaddu (#2188) using the Shielded Metal Arc Welding (SMAW) process to attach drip rails at 4E-PP29-E1 and 4E-PP26-E1. The two drip rails attached at PP29 were each approximately 150 mm in length and positioned on each side of the cantilever bike path support. The two drip rails at PP 26 were each approximately 450 mm in length and positioned on each side of the cantilever bike path support. This QA Inspector verified the following SMAW parameters; 125 amperes using a 3.2 diameter E7018H4R electrode. The welding observed appeared to comply with ABF-WPS-D15-F1200A. This QA Inspector periodically observed QC Inspector Fred Von Hoff monitoring the work at this location.

This QA Inspector observed ABF welding personnel Jorge Lopez (#6149) performing SMAW at 9E-PP79-E3 on lifting lug holes #1 and #3. This QA Inspector observed QC Inspector Fred Von Hoff verify the following welding parameters; 130 amperes using a 3.2 diameter 7018H4R electrode for the root pass and one additional pass on hole #1. This QA Inspector observed after several passes the electrode diameter was increased to 4.0 and QC Inspector Fred Von Hoff verified the following parameters; 183 amperes. The welding observed appeared to comply with ABF-WPS-D15-1050A-CU.

Summary of Conversations:
This QA Inspector had general conversations with American Bridge/Fluor (ABF) and Caltrans personnel during this shift. Except as described above and noted below there were no notable conversations.

Comments
This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Nina Choy (510) 385-5910, who represents the Office of Structural Materials for

your project.

Inspected By:	Hager,Craig	Quality Assurance Inspector
Reviewed By:	Levell,Bill	QA Reviewer